

ABSTRACT OF THE INVENTION

A technique for digitally capturing a high contrast color image involves simultaneously capturing image data from bright and dark areas using an image sensor with pixels of the same color that have different sensitivities to the bright and dark areas. The image data from the different sensitivity pixels is then used to generate a final image that includes features from both the bright and dark areas. An embodiment of a digital imaging system includes an image sensor with a first group of pixels that have a first sensitivity to a first color and a second group of pixels that have a second sensitivity to the same color. Image data that is captured by the two groups of pixels is brought to a common scale by a scaling unit before the image data is used to generate demosaiced image data. The scaled image data is used by a demosaic unit to determine intensity values for the first color at all of the pixel locations. Errors in the demosaiced intensity values that result from capturing the first color image data with pixels of two different sensitivities are corrected by an error correction unit to generate a final image that accurately depicts the original high contrast color image.